AN EFFICIENT PRODUCT RECOMMENDATION SYSTEM USING BLOCK CHAIN BASED ON COLLABRATIVE FILTERING

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ABSTRACT

The Web creates excellent opportunities for businesses to provide personalized online Services to their customers. Recommender systems aim to automatically generate personalized suggestions of products/services to customers (business or individual). Although recommender systems have been well studied, there are still two challenges in the development of a recommender system, particularly in real-world B2B e-services. In Proposed a recommendation technique utilizing the fast diffusion and information sharing capability of a large customer network. This system implemented a GRS based on opinion dynamics that considers these relationships using a smart weights matrix to drive the process. In GRSs, a recommendation is usually computed by a simple aggregation method for individual information the proposed method [described as the customer-driven recommender system (CRS)] follows the collaborative filtering (CF) principle but performs distributed and local searches for similar neighbors over a customer network in order to generate a recommendation list.

Keyword: - *Block Chain, JAVA, JAVA Servlets, My Sql, Use Case Diagrams, Net Beans, HTML, XML, etc…*

1. INTRODUCTION

Web mining or Knowledge Discovery is the process of analyzing data from different perspectives and summarizing it into useful information. This information can then be used to increase revenue, cuts costs, or both. A software created with web mining as its basic theme should allow users to analyze data from many different dimensions or angles, categorize it, and summarize the relationships identified. Technically, web mining is the process of finding correlations or patterns among dozens of fields in large relational databases. This project is an extension of one of the popular sub-categories of web Mining: - "**Market Basket Analysis (MBA)",** which is a modeling technique providing insight into the customer purchasing patterns. A market basket is composed of the item-sets which are purchased in a single trip to the store. MBA basically seeks to find the relationship between the items purchased in this basket. As a marketing tool it is employed to mine out the frequent item sets in a large no: of transactions. Thus it is also called "**Frequent Item-set Mining**".

1.1 Existing System

The items or user profiles often present complicated tree structures in business applications which cannot be handled by normal item similarity measures. Promising frequent item set assumes that the two thresholds minimum support and confidence doesn't change. Items which are neither bought frequently nor bought sparingly, which constitute the middle item infuse additional noise. This method will not be efficient if the transaction database turns out to be homogeneous. This type of clustering is not user controllable except for the modification of support values Fuzzy preference tree-based recommendation approach is tested and validated using an Australian business data set and the Movie Lens data set.

1.2 Objective

This project aims to accomplish an optimized predicting algorithm to find the frequent items likely to be purchased by the customer. Here we analyze the previous purchasing patterns of the customers and use the information thus procured, to arrive in conjunction with the purchasing mentality of particular sets of customers. Link structures among items within an E-commerce Web site can be regarded as a potential recommendation that helps new consumers quickly locate relevant products. In this paper, we propose a recommendation technique utilizing the fast diffusion and information sharing capability of a large customer network. The proposed method [described as the customer-driven recommender system (CRS)] follows the collaborative filtering (CF) principle but performs distributed and local searches for similar neighbors over a customer network in order to generate a recommendation list.

1.3 Contribution

The scope of our approach is limited to item-based collaborative filtering. The primary aim of the approach is to recommend products to the users with more accuracy and less noise, there by adding advantage to the user as well as the administrator.

2. LITERATURE SURVEY

As the most widely used recommendation algorithm, collaborative filtering (CF) has been studied for many years due to its simplicity and effectiveness. The two main categories of CF have their own shortcomings. Memory-based CF can't generate accurate results when faced with data sparsity; and model-based CF always loses the information between users or items. To alleviate this problem, we propose an algorithm that integrate user trust into the traditional matrix factorization (MF). Trust network is introduced to utilize all the trusted users to help make prediction. Experiments are performed on Opinions dataset and Film Trust dataset to compare proposed approach with traditional ones. The reported results indicate that the idea of employing user trust into MF is valid and can improve the recommendation quality. Recommendation algorithms are best known for their use on e-commerce Web sites, where they use input about a customer's interests to generate a list of recommended items. Many applications use only the items that customers purchase and explicitly rate to represent their interests, but they can also use other attributes, including items viewed, demographic data, subject interests, and favorite artists. At Amazon.com, we use recommendation algorithms to personalize the online store for each customer. The store radically changes based on customer interests, showing programming titles to a software engineer and baby toys to a new mother. The click-through and conversion rates — two important measures of Web-based and email advertising effectiveness — vastly exceed those of untargeted content such as banner advertisements and top-seller lists. Modern consumers are inundated with choices. Electronic retailers and content providers offer a huge selection of products, with unprecedented opportunities to meet a variety of special needs and tastes. Matching consumers with the most appropriate products is key to enhancing user satisfaction and loyalty. Therefore, more retailers have become interested in recommender systems, which analyze patterns of user interest in products to provide personalized recommendations that suit a user's taste. Because good personalized recommendations can add another dimension to the user experience, e-commerce leaders like Amazon.com and Netflix have made recommender systems a salient part of their websites.

3. PROPOSED SYSTEM

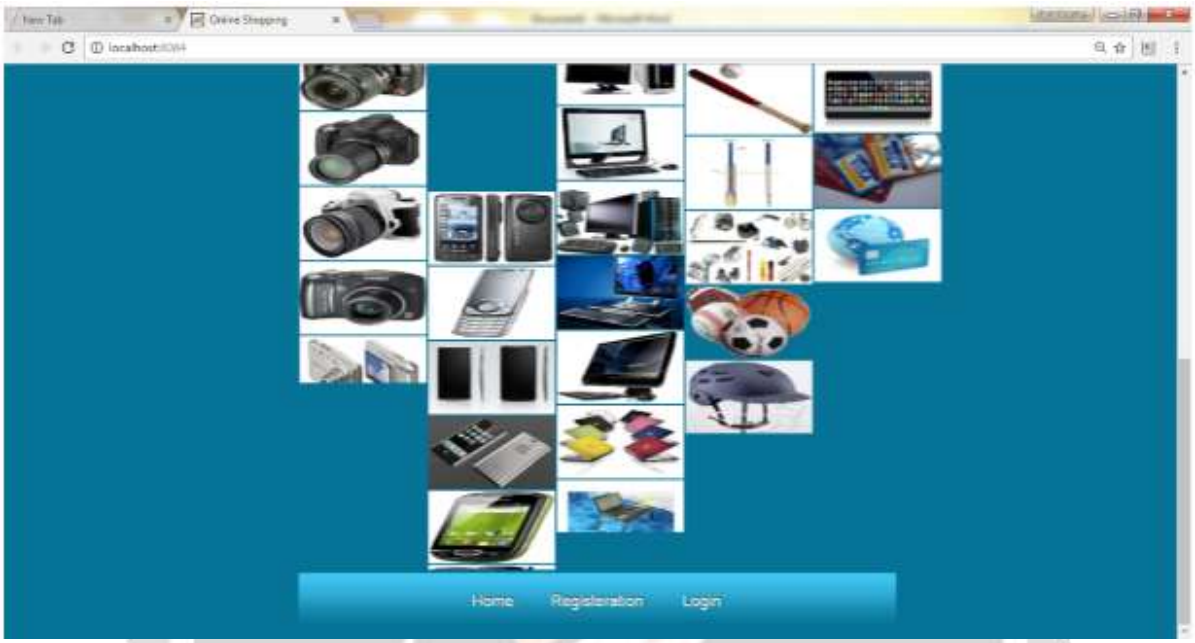
This project aims to accomplish an optimized predicting algorithm to find the frequent items likely to be purchased by the customer. This algorithm has better running time than FUP incremental algorithm. It helps to find frequent items in a dynamically added transaction. The previous purchasing patterns of the customers information is procured, to arrive in conjunction with the purchasing mentality of particular sets of customers. Acts as a powerful predictive tool for the marketers in enhancement of their sales strategy. A step-wise elucidation of the process is as follows. Disintegrate the transaction history database into purposeful pattern separated clusters. Mapping the current customer to the best suited cluster. Sequencing of past purchases of the customers. Prediction of the purchase sequence of the current customer. Extracting the frequent item from the transactions.

3.1 Advantages of Proposed System

- Disintegrate the transaction history database into purposeful pattern separated clusters.

- Mapping the current customer to the best suited cluster.
- Sequencing of past purchases of the customers.
- Prediction of the purchase sequence of the current customer.

4. RESULT



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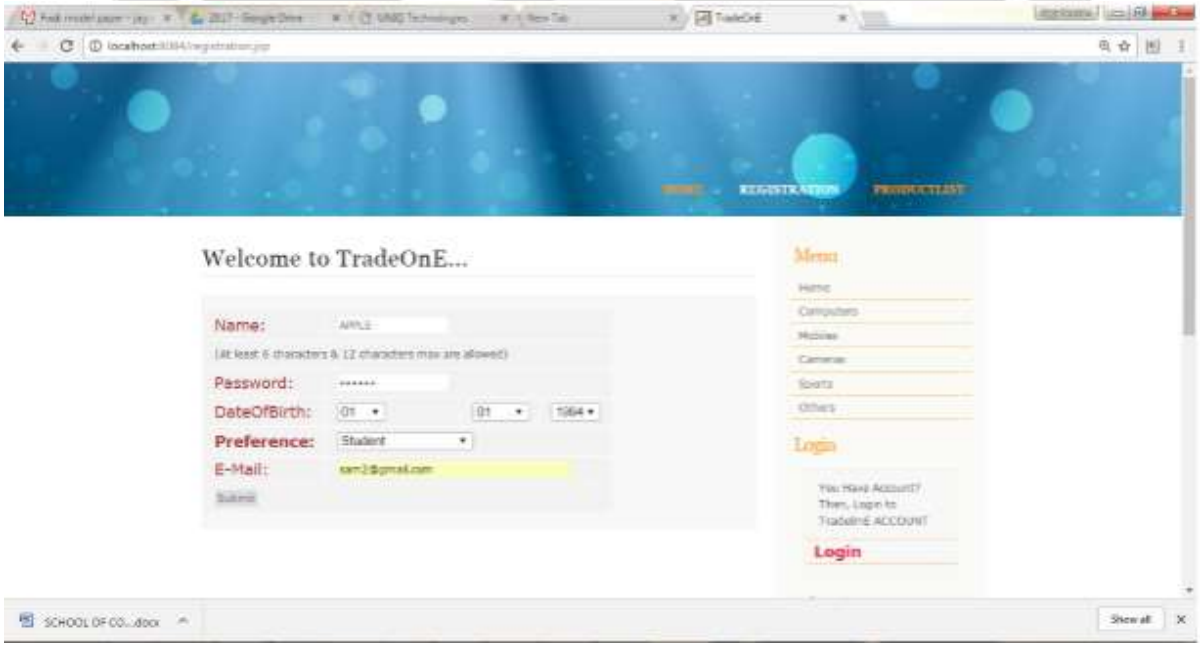

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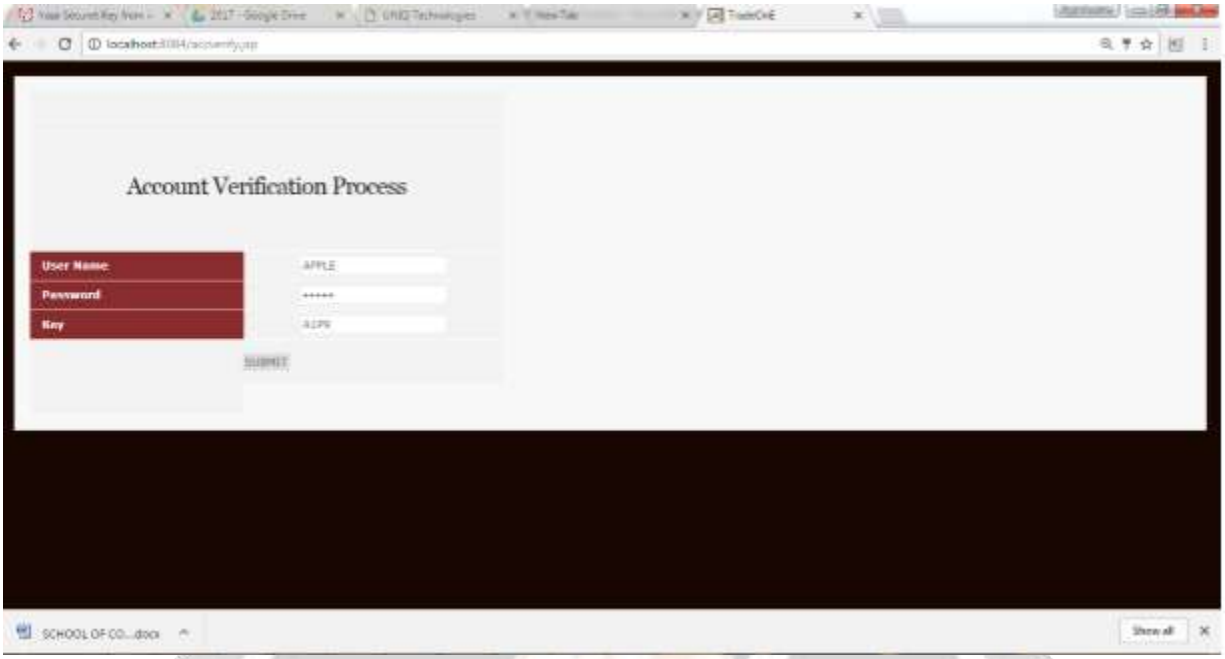

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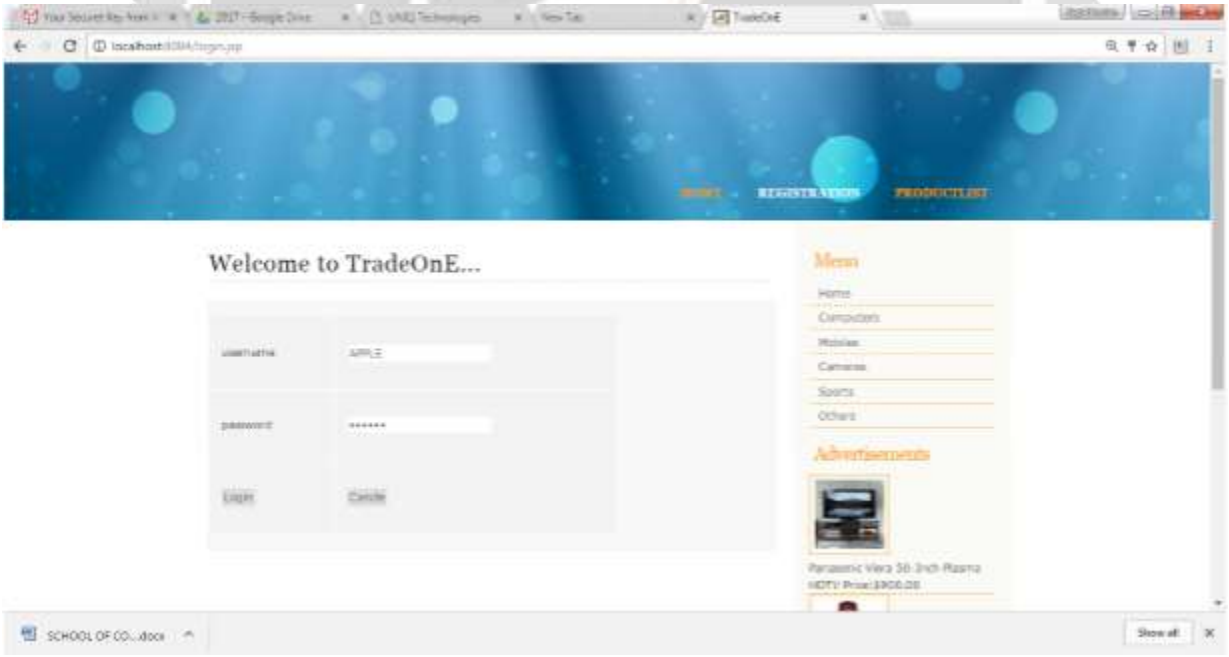

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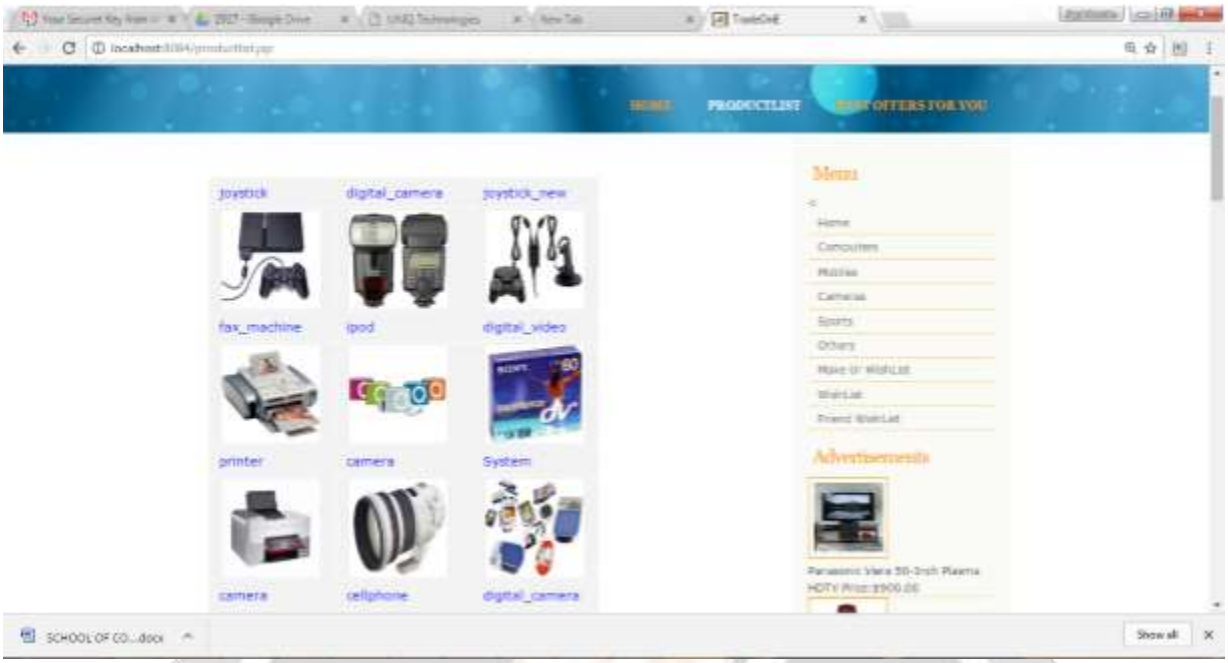

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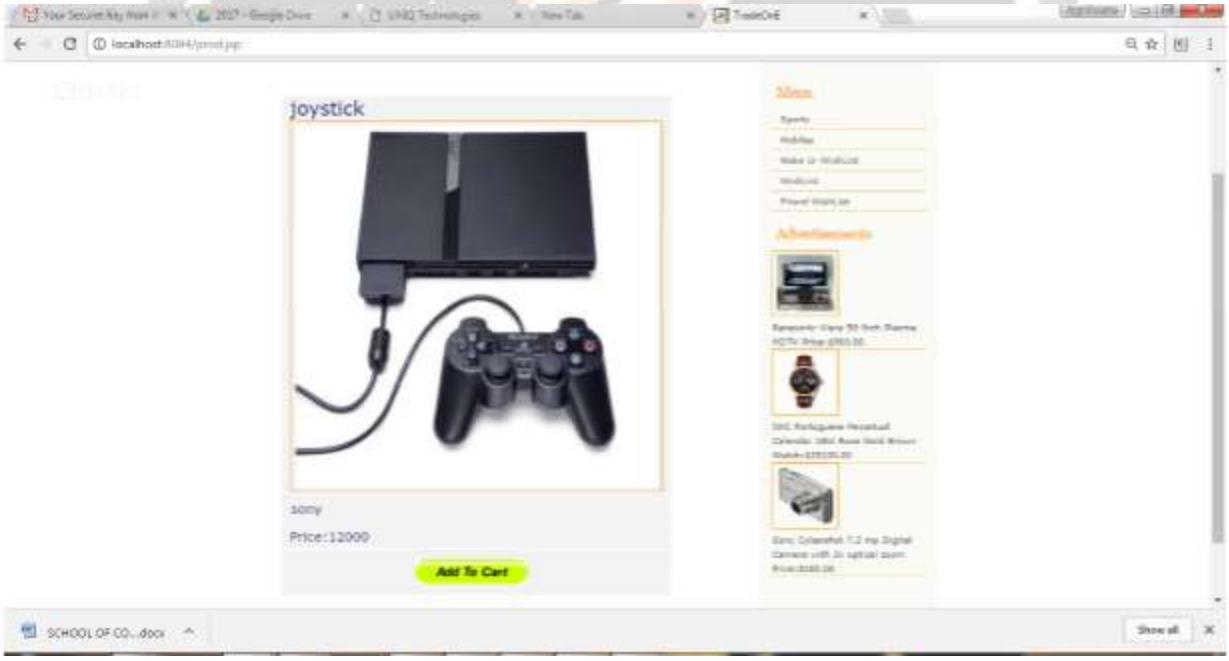

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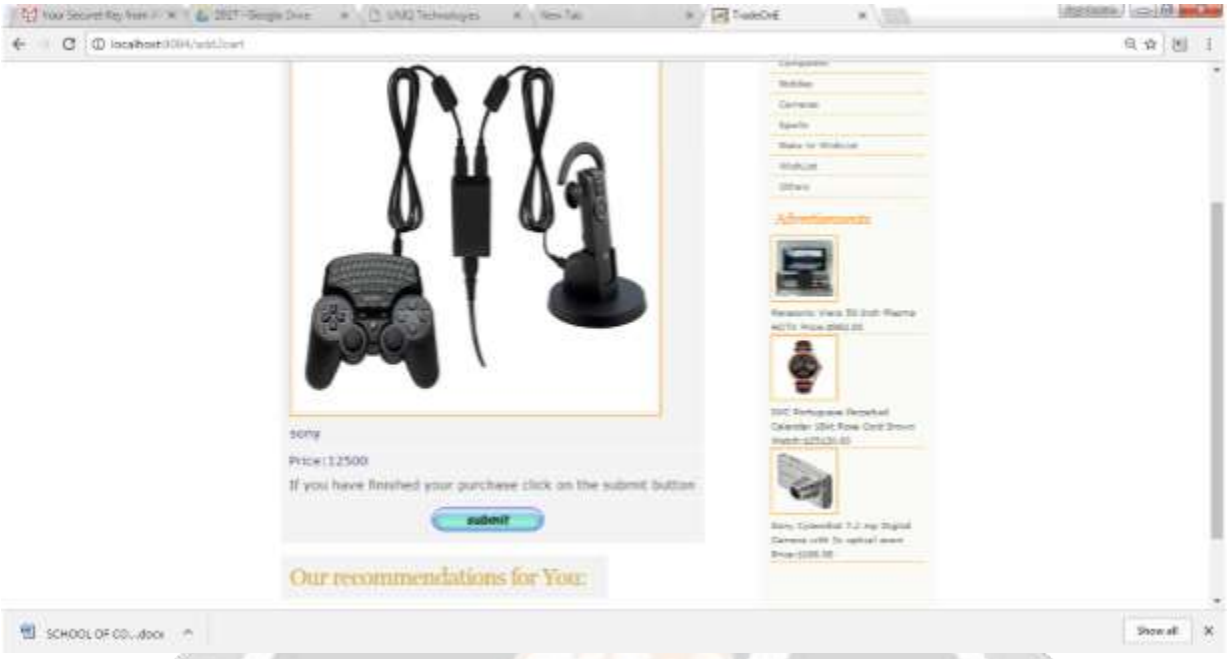

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5. CONCLUSIONS

With the help of Incremental Association Rule Mining and Transaction Clustering, It introduced a method to design an improved and well-structured website design for an E-shop in the design phase. Assuming that the two thresholds, minimum support and confidence, do not change, the promising frequent algorithm can guarantee to discover frequent item sets. It have used an efficient clustering algorithm for data items to minimize the SL ratio in each group. The algorithm is able to cluster the data items very efficiently. This algorithm not only incurs an execution time but also leads to the clustering results of very good quality.

6. REFERENCES

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